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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/451,927 12/01/99 SUZUKI

I 00325/ME: YKO

EXAMINER

MMC1/0309

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WASHINGTON DC 20006

PATEL, H	
ART UNIT	PAPER NUMBER

2855

DATE MAILED:

03/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/451,927

Applicant(s)

SUZUKI, ISAO

Examiner

Harshad Patel

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Art Unit: 2855

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an applications filed in Japan on 12/01/98 and 06/18/99. It is noted, however, that applicant has not filed a certified copy of the Japanese applications as required by 35 U.S.C. 119(b).

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (5,410,912).

Suzuki teaches a flow rate sensor as claimed in the instant invention including a pair of heating resistors (35A, 35B) for heating a U-shaped sensor tube (32), a temperature sensor (R_5 , R_6), a case (2, 4) for holding the heating resistors and the temperature sensor, wherein the sensor detects the flow rate based on the variations of voltage applied to the heating resistors and the sensor tube has opposite ends thermally connected to the case and the temperature sensor positioned to equidistant from the opposite ends of the sensor tube. The sensor tube is at least partially covered with a sensor tube guide (41) having high heat conductivity.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 8, and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Drexel et al. (5,285,673) (hereinafter Drexel).

Suzuki shows all the features of the instant invention except for the increase in temperature of the heating resistors being 5 C or less from the temperature of the temperature sensor. The use of the increase or decrease in the temperature of the heating resistors compared to the temperature sensor is nothing more than experimental design choice since such values are mere experimental results that can be achieved by performing experiments to achieve the most sensitive and reliable results. Suzuki teaches maintaining the temperature difference of 35 thus balancing the bridge. Furthermore, as to providing a plurality of narrow tubes within the sensor tube, Drexel, in the same field of endeavor, teaches a capillary sensor tube. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the teaching of Drexel for of the capillary tube as a sensor tube since the applicant acknowledges that the use of a single capillary tube is an alternative for providing a plurality of narrow tubes within a single sensor tube. Hence to substitute the capillary tube of Drexel for the sensor tube of Suzuki would function equally to the providing of a plurality of narrow tubes within a sensor tube.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arai (5,741,968), Ritchart (5,792,952) and Alvesteffer et al. (6,125,695) teach a flow sensor assembly disposed within a case and including at least a pair of heating resistors and a temperature sensor disposed on a U-shaped sensor tube.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harshad Patel whose telephone number is (703) 305-4935. The examiner can normally be reached on M-Th (7:00 AM-5:30 PM).



Harshad Patel
Primary Examiner
Art Unit 2855

H. P.
March 7, 2001